## **AMENDMENTS TO THE CLAIMS**

## **LISTING OF CLAIMS**

Following is a listing of all claims in the present application, which listing supersedes all previously presented claims:

- 1. (Currently Amended) A solid oxide fuel cell <u>that can operate with a sulfur-containing hydrocarbon fuel that does not have to undergo prior treatment to remove organic sulfur compounds</u> comprising:
  - (a) a solid electrolyte comprised of an electronic insulator which allows transfer of anions, a ceramic-metal composite anode and a cathode;
  - (b) a fuel comprising a sulfur-containing hydrocarbon having a sulfur content of from about 1 ppm to about 5000 ppm; and
  - (c) an oxygen source.
- 2. (Original) The fuel cell according to claim 1, wherein the hydrocarbon is a petroleum distillate.
- 3. (Currently Amended) The fuel cell according to claim 2, wherein the petroleum distillate is selected from the group consisting of gasoline, diesel oil, naphtha, JO-4, JP-5, JP-8, kerosene, motor oil, natural gas, fuel oil, and mixtures thereof.
- 4. (Currently Amended) The fuel cell according to claim 3, wherein the petroleum distillate is selected from the group consisting of JP-4, JP-5, JP-8, and mixtures thereof.
- 5. (Currently Amended) The fuel cell according to claim 3, wherein the petroleum distillate is selected from the group consisting of naptha, kerosene, fuel oil, and mixtures thereof.
- 6. (Currently Amended) The fuel cell according to claim 3, wherein the petroleum distillate is selected from the group consisting of gasoline, diesel oil, natural gas, and mixtures thereof.

- 7. (Original) The fuel cell according to claim 2, wherein the hydrocarbon comprises an alcohol.
- 8. (Currently Amended) The fuel cell according to claim 7, wherein the alcohol is selected from the group consisting of methanol, ethanol, and mixtures thereof.
- 9. (Currently Amended) The fuel cell according to claim 2, wherein the hydrocarbon is selected from the group consisting of dry methane, butane, toluene, decane, and mixtures thereof.
- 10. (Original) The fuel cell according to claim 1, wherein the sulfur-containing hydrocarbon fuel has a sulfur content of from about 1 ppm to about 1000 ppm.
- 11. (Original) The fuel cell according to claim 10, wherein the sulfur-containing hydrocarbon fuel has a sulfur content of from about 10 ppm to about 1000 ppm.
- 12. (Original) The fuel cell according to claim 11, wherein the sulfur-containing hydrocarbon fuel has a sulfur content of from about 20 ppm to about 1000 ppm.
- 13. (Original) The fuel cell according to claim 12, wherein the sulfur-containing hydrocarbon fuel has a sulfur content of from about 100 ppm to about 1000 ppm.
- 14. (Original) The fuel cell according to claim 13, wherein the sulfur-containing hydrocarbon fuel has a sulfur content of from about 250 ppm to about 1000 ppm.
- 15. (Currently Amended) The fuel cell of according to claim 1, wherein the solid electrolyte is an oxide ion conducting material.
- 16. (Currently Amended) The fuel cell of according to claim 15, wherein the oxide ion conducting material is selected from the group consisting of doped ceria, doped zirconia, and doped lanthanum gallate.
- 17. (Currently Amended) The fuel cell of <u>according to</u> claim 16, wherein the doped ceria is selected from the group consisting of gadolinium doped ceria, samarium-doped ceria, and yttria-doped ceria, and mixtures thereof.
- 18. (Currently Amended) The fuel cell **of according to** claim 15, wherein the oxide ion conducting material is yttria-doped zirconia.

- 19. (Currently Amended) The fuel cell **of** <u>according to</u> claim 16, wherein the doped zirconia is scandium-doped zirconia.
- 20. (Currently Amended) A process of producing electrical energy, comprising:
  - (a) providing a solid oxide fuel cell that can operate with a sulfur-containing hydrocarbon fuel that does not have to undergo prior treatment to remove organic sulfur compounds comprising a solid oxide electrolyte that is an electronic insulator which allows transfer of anions, a ceramic metal composite anode and a cathode;
  - (b) contacting said cathode with an oxygen source; and
  - (c) contacting said anode with a fuel comprising a sulfur-containing hydrocarbon having a sulfur content of from about 1 ppm to about 5000 ppm.
- 21. (Original) The process according to claim 20, wherein the hydrocarbon is a petroleum distillate.
- 22. (Currently Amended) The process according to claim 21, wherein the petroleum distillate is selected from the group consisting of gasoline, diesel oil, naphtha, JP-4, JP-5, JP-8, kerosene, motor oil, natural gas, fuel oil, and mixtures thereof.
- 23. (Currently Amended) The process according to claim 22, wherein the petroleum distillate is selected from the group consisting of JP-4, JP-5, JP-8, and mixtures thereof.
- 24. (Currently Amended) The process according to claim 22, wherein the petroleum distillate is selected from the group consisting of naphtha, kerosene, fuel oil, and mixtures thereof.
- 25. (Original) The process according to claim 22, wherein the petroleum distillate comprises gasoline.
- 26. (Original) The process according to claim 22, wherein the petroleum distillate comprises diesel oil.

- 27. (Currently Amended) The process according to claim 20, wherein the hydrocarbon is selected from the group consisting of alcohols, dry methanes, butane, toluene, decane, and mixtures thereof.
- 28. (Original) The process according to claim 27, wherein the hydrocarbon comprises an alcohol.
- 29. (Currently Amended) The process according to claim 28, wherein the alcohol is selected from the group consisting of methanol, ethanol, and mixtures thereof.
- 30. (Original) The process according to claim 20, wherein the sulfur-containing hydrocarbon has a sulfur content of from about 10 ppm to about 1000 ppm.
- 31. (Canceled)
- 32. (Canceled)
- 33. (Canceled)
- 34. (Canceled)
- .35. (Canceled)
- 36. (Canceled)
- 37. (Canceled)
- 38. (Canceled)
- 39. (Canceled)
- 40. (Canceled)
- 41. (Canceled)
- 42. (Canceled)
- 43. (Canceled)
- 44. (Canceled)

- 45. (Canceled)
- 46. (Canceled)
- 47. (Canceled)
- . 48. (Canceled)
- 49. (Canceled)
- 50. (Canceled)
- 51. (Canceled)
- 52. (Canceled)
- 53. (Canceled)